EPSON COLOR SCANNER PERFECTION 2450 PHOTO

Scanner Basics

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Contents

Introduction 1

Placing Your Document 3

Placing Standard Documents 3
Placing Transparencies and Film 4
    Using the Transparency Unit 4
    Using Film Holders 6

Scanning with EPSON Smart Panel 9

Smart Panel Basics 10
    Reprogramming the Start Button 11
Scanning to E-mail 13
Scanning and Printing with Photo Print 16
Scanning to the EPSON PhotoCenter 18
    Sharing Your Photos 23
Scanning a Photo to a File 24

Advanced Scanning 27

Scanning from an Application 28
    Selecting the Scanner Source (Windows only) 28
    Scanning Your Image 29
Using EPSON TWAIN 30
Using SilverFast SE 32
    Installing the SilverFast SE Plugin 33
Recommended Settings 34

Problem Solving 35
Scanner Light 35
Problems and Solutions 36
Setup Problems 36
Scanner Problems 37
Software Problems 38
Image Problems 38
Where To Get Help 41
For More Information 41
EPSON Technical Support 42
Software Support 43

Requirements and Notices 45
System Requirements 45
Windows 45
Macintosh 46
Important Safety Instructions 47
ENERGY STAR Compliance 48
FCC Compliance Statement 48
Declaration of Conformity 50
Warranty 50

Index 53

Introduction

Your EPSON Perfection® 2450 PHOTO scanner lets you turn pictures and documents into digital files on your computer. The scanner includes a built-in transparency unit that makes scanning slides, film strips, and other transparencies quick and easy.

For most scans, EPSON® recommends using the EPSON Smart Panel™ software. This software guides you step-by-step through many common scanning tasks. See "Scanning with EPSON Smart Panel" on page 9 for instructions.

If you're experienced with scanning, you can scan from applications like Adobe® Photoshop® Elements or almost any other graphics program using your EPSON TWAIN software. Or, if you've installed it, you can use LaserSoft Imaging™ SilverFast® SE instead of EPSON TWAIN. See "Advanced Scanning" on page 27 for details.

Instructions for setting up your scanner can be found on the *Start Here* sheet.

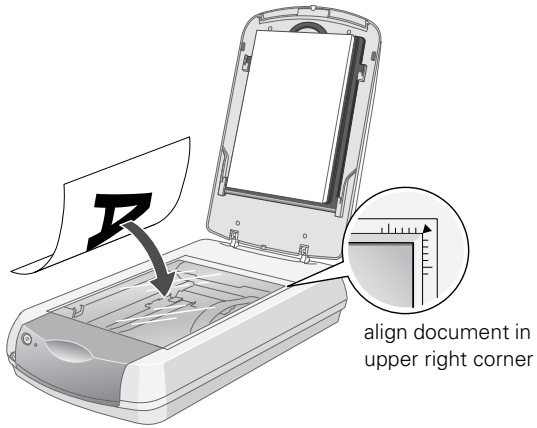
Placing Your Document

Depending on what you're planning to scan, follow the guidelines in this chapter to place your document correctly:

- To scan standard (opaque paper) documents, see "Placing Standard Documents" below.
- To scan transparent media such as slides and film strips, see "Placing Transparencies and Film" on page 4.

Placing Standard Documents

Place your document face down on the scanner, as shown, then close the cover.



NOTE

The self-adjusting cover lets you place thick documents on the scanner.

When placing your document in the upper right corner, be aware that the edges of the document (up to about 1/8 inch) may not scan.

Placing Transparencies and Film

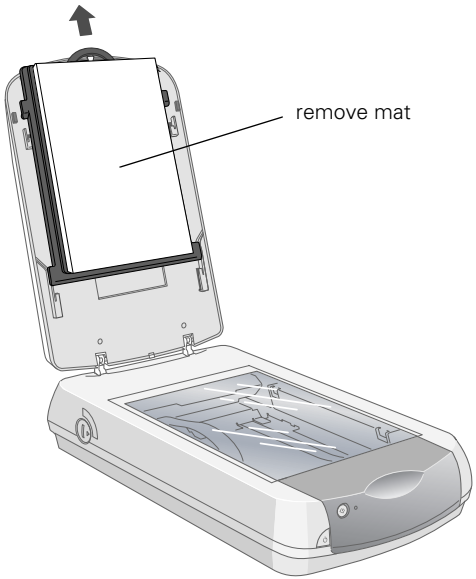
Before scanning transparent documents, you need to remove the scanner's reflective document mat; this exposes the transparency unit, as described below.

If you're scanning slides or film strips, you'll also need to use one of the film holders that came with your scanner. This is described on page 6.

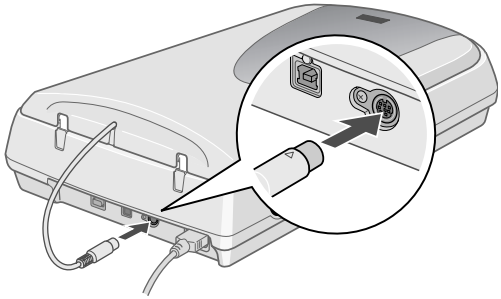
Using the Transparency Unit

The scanner's cover has a built-in transparency unit, or light source, that you need to use when scanning transparencies and photographic film. Follow these steps to use it:

1. Remove the reflective document mat. To do this, grasp the top of the mat and then slide it up gently.

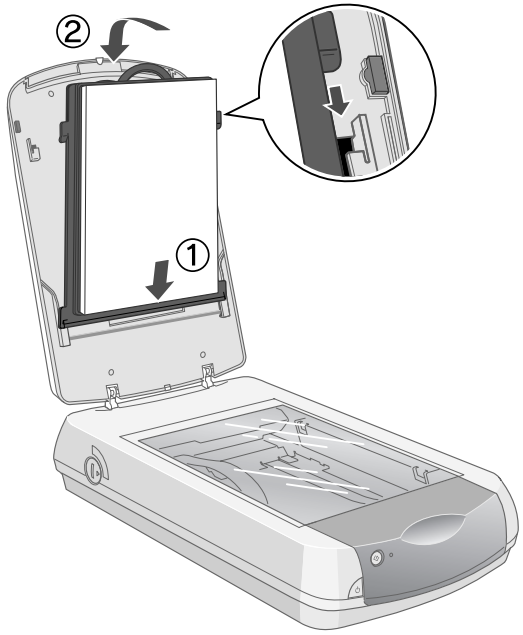


2. Make sure the cable is plugged into the round connector. If not, turn off the scanner and connect the cable, as shown.



When you're done scanning transparencies and want to return to scanning standard (opaque) documents, be sure to replace the reflective document mat:

1. With the white side facing toward you, partially insert the lower tabs as shown.
2. Insert the upper tabs fully until the mat clicks into place.

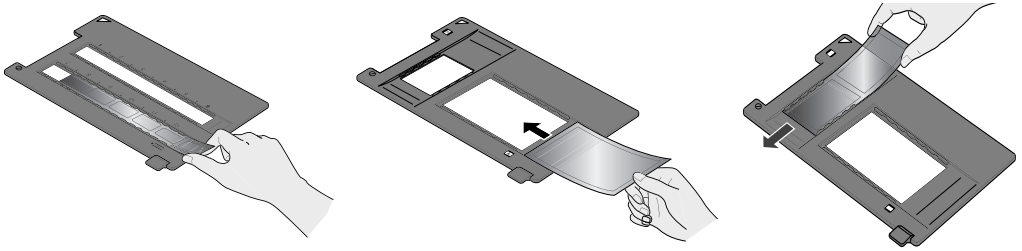


Using Film Holders

Your scanner comes with three different film holders for film and slides. The film holders ensure correct placement of your transparencies and make it easier to scan them.

Film has two sides, a shiny base side and a dull emulsion side. The base side of the film has the film maker's name and film ID numbers printed on it. Always place the shiny base side down.

1. To scan 35-mm film strips, 4 × 5-inch film, or 120/220 (6 × 9 cm) film, place the film in the correct holder, as shown:



35-mm strips | 4 × 5-inch film | 120/220 (6 × 9-cm) film

2. Place the holder with the film onto the scanner. Make sure the white triangle on the holder points to the upper-right corner of the scanner.

If you're scanning 35-mm slides, set the holder on the scanner first, then place the slides in the holder.

Scanning with EPSON Smart Panel

You can use EPSON Smart Panel's easy, step-by-step applications to help you with your most common scanning needs:

- Use the Copy function like a copy machine to scan and print copies of newspapers, magazine articles, or handwritten letters. (For photos, use Photo Print.)
- Use Scan to E-mail to scan a photo or letter and include it in your e-mail.
- Use Scan to OCR (optical character recognition) to convert printed text, such as magazine articles, into documents you can edit in your favorite word processor.
- Use Photo Print to make instant reprints of photos. Photo Print works like the Copy function, but at a higher resolution that's more suitable for photographs.
- Use Scan to Application to automatically scan your picture and open it in the image processing software of your choice.
- Use Photoshop to edit, retouch, or add special effects to your images.
- Use Scan to Web to scan photos and upload them to the EPSON PhotoCenter℠ This lets you share them with your friends and family on the Internet.
- Use Scan to File to save your scan as an image file that you can open, edit, or print later on.

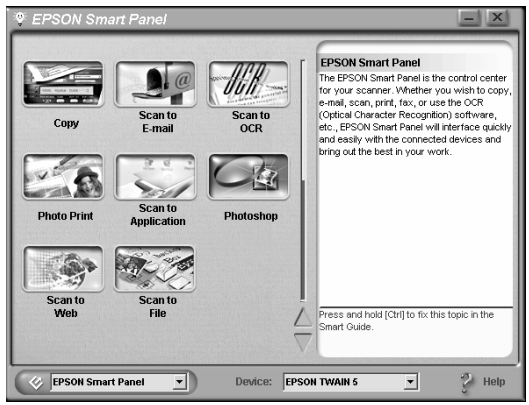
Smart Panel Basics

Follow these steps to scan with EPSON Smart Panel:

1. Turn on the scanner by pressing the ⏻ Power button.
2. Place your photo(s) face down on the scanner, then close the cover. (If you place multiple photos, make sure that their edges do not touch.)
3. Do one of the following to open EPSON Smart Panel:
   - Double-click the Smart Panel icon on the desktop.
   - If you haven't reassigned its function (see page 11), you can press the Start button on your scanner.
   - From the Windows Start menu, click Programs, then open Smart Panel from the EPSON Smart Panel folder. (On a Macintosh® open the Apple® menu and select EPSON SMART PANEL.)

   EPSON Smart Panel opens:

click the icon for the application you want to use



4. Click the icon for the application you want to use.
5. After selecting the application, a window opens so you can adjust the settings for your scan. Follow the on-screen steps for each application.

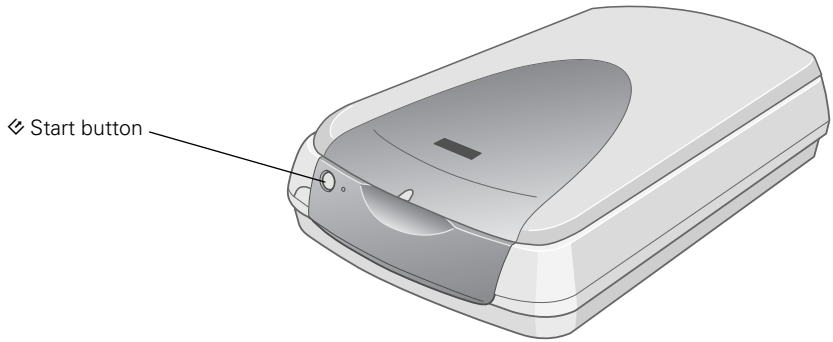
See the following sections in this chapter to learn more about specific Smart Panel features. You can also find more information in the EPSON Smart Panel online help.

An update to the Copy application is available on the Scanner Software CD-ROM (Windows users only). For installation instructions, see the Read Me file in the Copy Utility 2.0 folder on the CD-ROM.

You can also check the NewSoft web site at www.newsoftinc.com or the Epson Support web site at http://support.epson.com for any further updates to EPSON Smart Panel and Smart Panel applications.

Reprogramming the Start Button

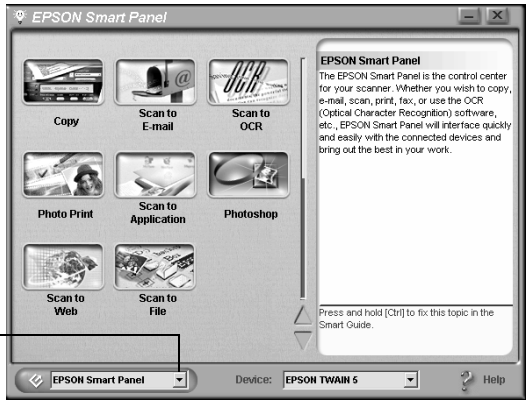
Unless you've assigned a new function to it, the scanner's ⇗ Start button opens EPSON Smart Panel by default.



If you prefer, you can set the ⇗ Start button to automatically launch one of the Smart Panel applications (instead of just opening Smart Panel).

Follow these steps to assign a new function to the ◈ Start button:

1. Open EPSON Smart Panel as described on page 10.
2. Select the application you want to assign to the ◈ Start button, as shown below.



select the application you want the ◈ Start button to open

The ◈ icon appears next to the selected application on screen. The next time you press the ◈ Start button, that application automatically opens.

NOTE

For Windows® users: In addition to the Smart Panel applications, you can assign other applications that support "scanner events" (for example, Microsoft® Imaging for Windows) to the ◈ Start button. See your electronic *Reference Guide* for instructions.

Scanning to E-mail

Scan to E-mail automatically scans your document and includes it in an e-mail.

Your e-mail program must be MAPI-compliant—for example Microsoft Exchange or Outlook. See your e-mail documentation for details. AOL® is not a MAPI-compliant e-mail program.

To send a photo using AOL, scan it and save it as a file as described on page 24, then attach it to an e-mail and send it.

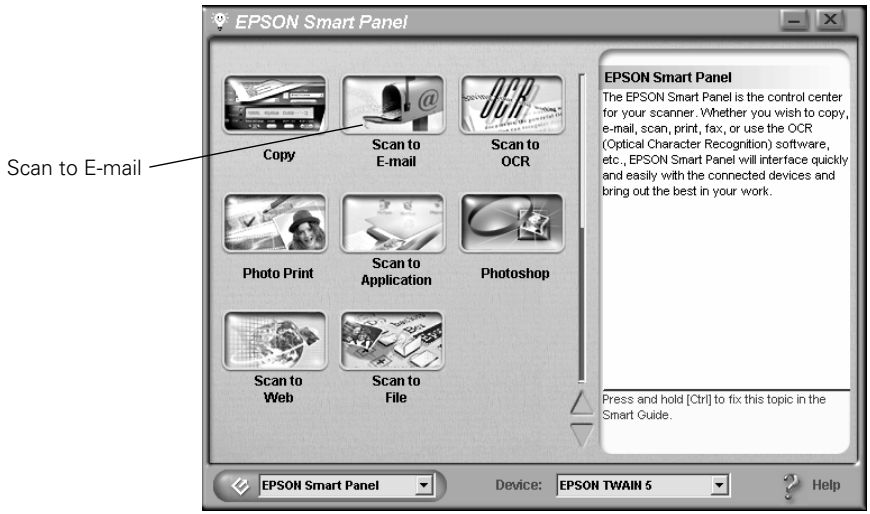
Follow these steps to use Scan to E-mail:

1. Make sure you are connected to the Internet.
2. Turn on the scanner by pressing the ⏻ Power button.
3. Place your photo(s) face down on the scanner, then close the cover.

If placing more than one photo on the scanner, make sure their edges do not touch.

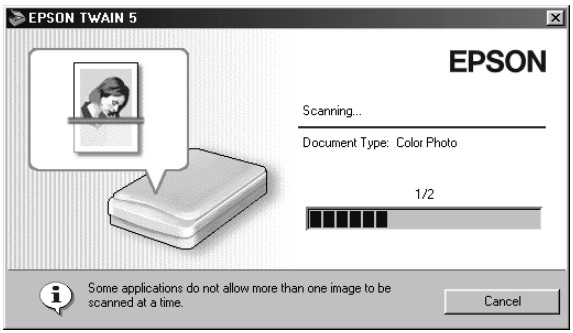
4. Open EPSON Smart Panel:
   - Double-click the Smart Panel icon on the desktop.
   - If you haven't reassigned its function (see page 11), you can press the ◈ Start button on your scanner.
   - From the Windows Start menu, click Programs, then open Smart Panel from the EPSON Smart Panel folder. (On a Macintosh, open the Apple menu and select EPSON SMART PANEL.)

5. EPSON Smart Panel opens. Click Scan to E-mail.



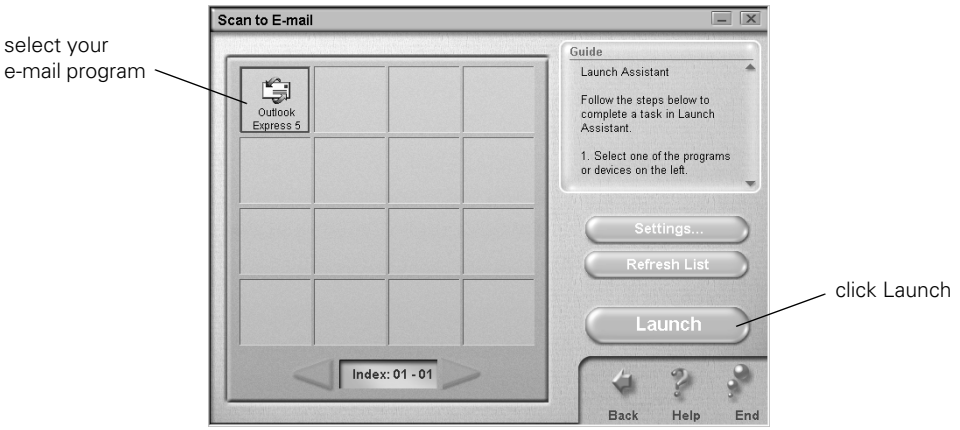
The application automatically scans your image.

If you'd rather scan in Manual mode so you can adjust your scan settings, click Cancel. (See page 30 for instructions on selecting TWAIN settings.) After adjusting your settings, close EPSON TWAIN and continue with step 6.

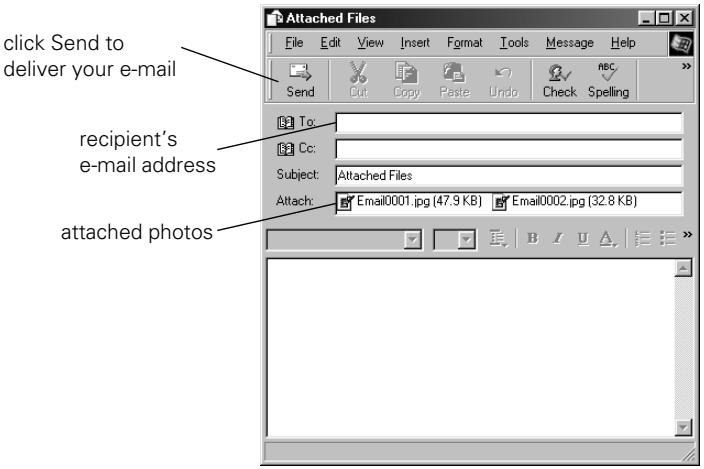


6. When the scan completes, the Scan to E-mail dialog box opens. You can scan more images (click Scan More) or click Finish to continue.

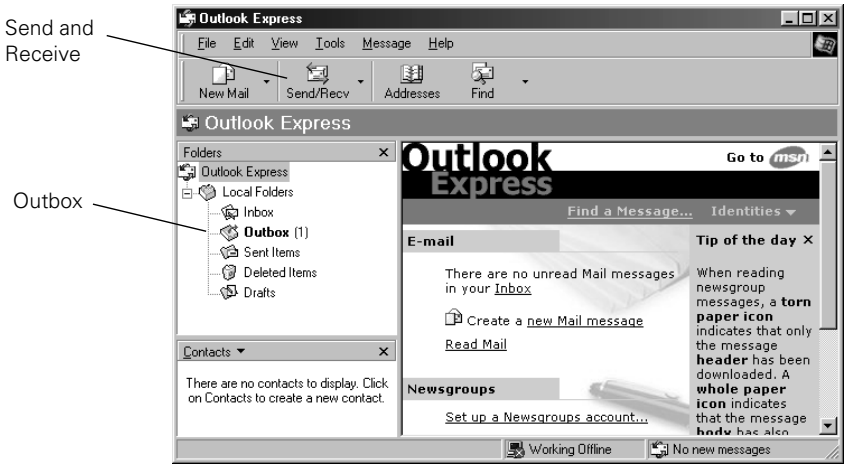
7. Select your e-mail program and then click **Launch**. (You only need to select your e-mail program the first time you use EPSON Smart Panel. For subsequent scans, it is automatically selected.)



8. An e-mail dialog box opens with your photo(s) attached. Enter the recipient's e-mail address, type in a message, and then click **Send**.



TIP Some e-mail programs, such as Outlook Express, do not immediately send the e-mail, but instead place it in an "outbox." To send the e-mail, you must launch the e-mail program and then click Send/Recv. See your e-mail program's documentation for more information.



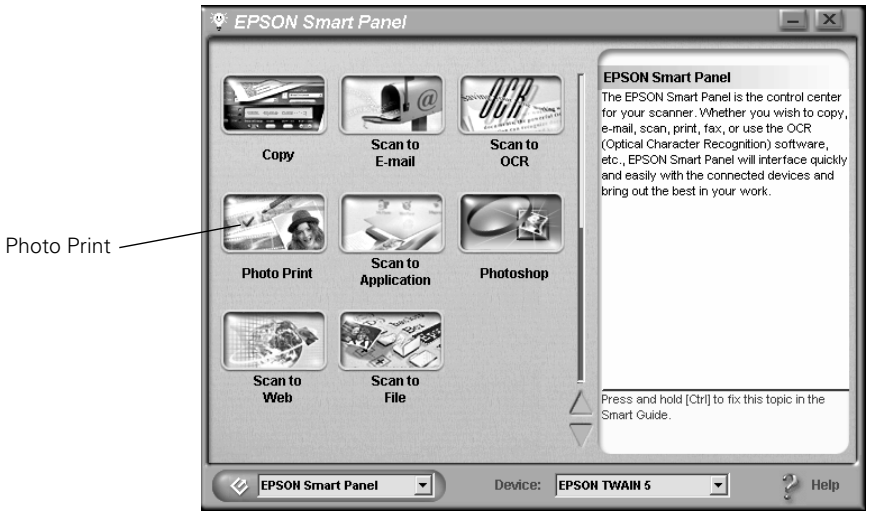
Scanning and Printing with Photo Print

Photo Print lets you scan and make high-quality printouts of your photographs.

NOTE Make sure your printer is turned on and the correct paper type and size is loaded in your printer.

1. Turn on the scanner by pressing the ⏻ Power button.
2. Place your photo face down on the scanner, then close the cover.
3. Open EPSON Smart Panel:
   - Double-click the Smart Panel icon on the desktop.
   - If you haven't reassigned its function (see page 11), you can press the ◈ Start button on your scanner.
   - From the Windows Start menu, click Programs, then open Smart Panel from the EPSON Smart Panel folder. (On a Macintosh, open the Apple menu and select EPSON SMART PANEL.)

4. EPSON Smart Panel opens. Click **Photo Print**.



5. The application confirms you have a printer installed on your system. Then EPSON TWAIN automatically scans your image.
6. When the scan completes, the EPSON Photo Print screen appears and your scanned image automatically prints.

NOTE If you want to verify or change the paper and print size settings, cancel the scan; then select your paper and print size. Press the green ◇ button on the screen to scan and print with the new settings.

Scanning to the EPSON PhotoCenter

With Scan to Web, you can scan photos and upload them to the EPSON PhotoCenter at http://photo.epson.com. The EPSON PhotoCenter is a free photo-sharing site that allows you to:

- store, organize, and share your photos
- print high-resolution photos straight from the Web
- order prints and custom photo gifts.

Follow these steps to scan photos to the EPSON PhotoCenter:

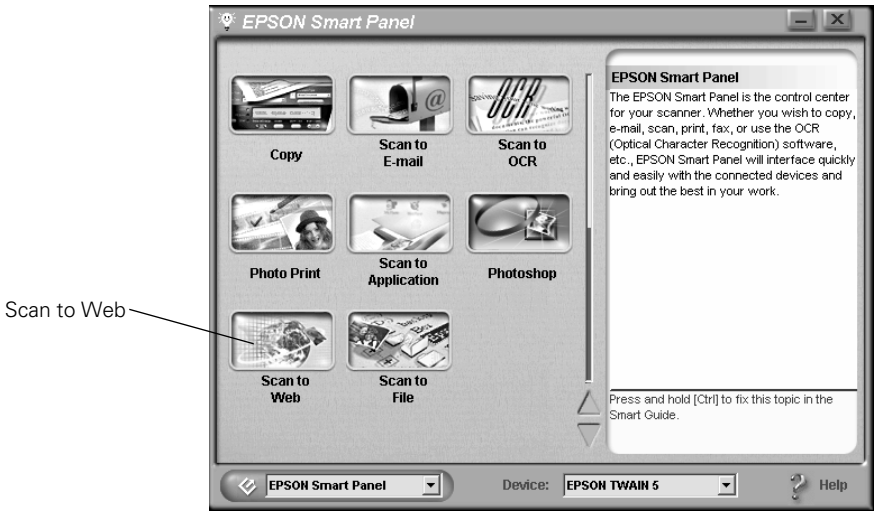
If you are using AOL, first log on to AOL, then follow the steps below.

1. Make sure you are connected to the Internet.
2. Go to http://photo.epson.com, register your e-mail address, and choose a password.
3. Turn on the scanner by pressing the ⏻ Power button.
4. Place your photo(s) face down on the scanner, then close the cover.

If you place more than one photo on the scanner, make sure that their edges do not touch.

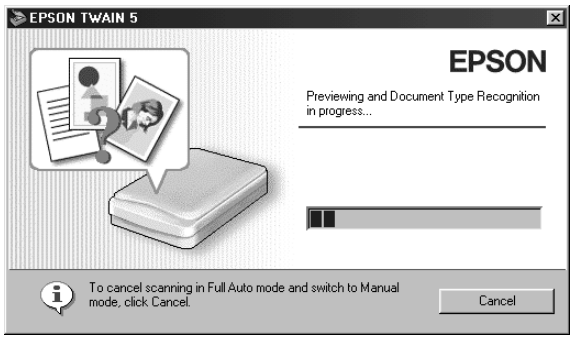
5. Do one of the following to open EPSON Smart Panel:
   - Double-click the Smart Panel icon on the desktop.
   - If you haven't reassigned its function (see page 11), you can press the ◈ Start button on your scanner.
   - From the Windows Start menu, click Programs, then open Smart Panel from the EPSON Smart Panel folder. (On a Macintosh, open the Apple menu and select EPSON SMART PANEL.)

6. EPSON Smart Panel opens. Click **Scan to Web**.



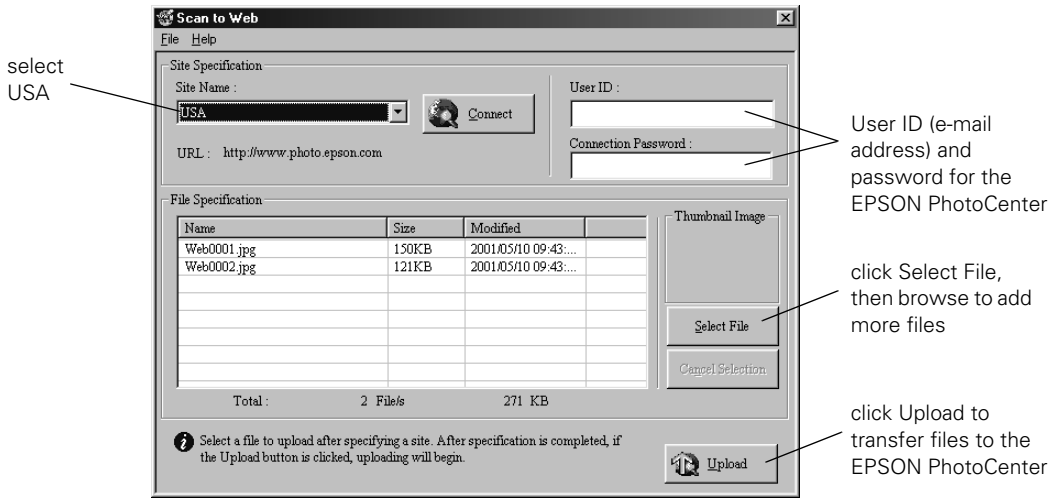
7. The application opens, then EPSON TWAIN automatically scans your image.

   If you'd rather scan in Manual mode so you can adjust your scan settings, click **Cancel**. (See page 30 for instructions on selecting TWAIN settings.) After adjusting your settings, close EPSON TWAIN and continue with step 8.



8. When the scan completes, the Scan to Web dialog box opens.

   - Select USA under Site Name, and enter the same User ID (e-mail address) and Connection Password you used when you registered at the EPSON PhotoCenter. (You only need to do this once. For subsequent scans, these are automatically selected.)
   - Click Upload. The photos upload to the EPSON PhotoCenter.



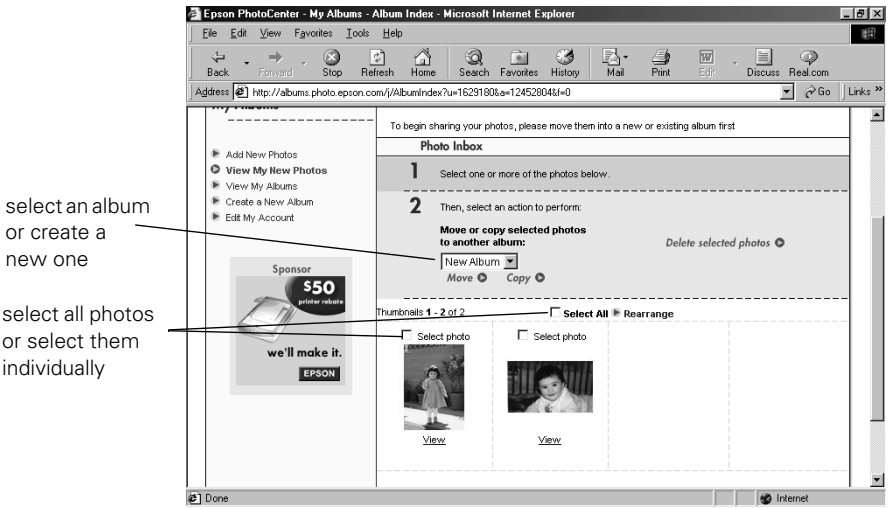
TIP If you have other digital images on your hard drive that you want to upload, click Select File, browse to the location of the files, and add them to the File Specification list before you click Upload.

9. When the upload completes, a message prompts you to confirm your upload. Click **OK** to connect to the EPSON PhotoCenter. Under **Member Sign In**, enter your e-mail address and password, and then click **go**.

10. You are automatically logged into the EPSON PhotoCenter and receive a message stating that you have new photos in your Photo Inbox. Click **Photo Inbox** to view your photos.

If you don't see your photos, increase the size of your browser window or use the scroll bar to scroll down until you see your photos.

11. If you want others to see your photos, you must move them to an album. Select the photos you want to share. Either select them individually by clicking Select photo for each picture or click Select All to select them all.

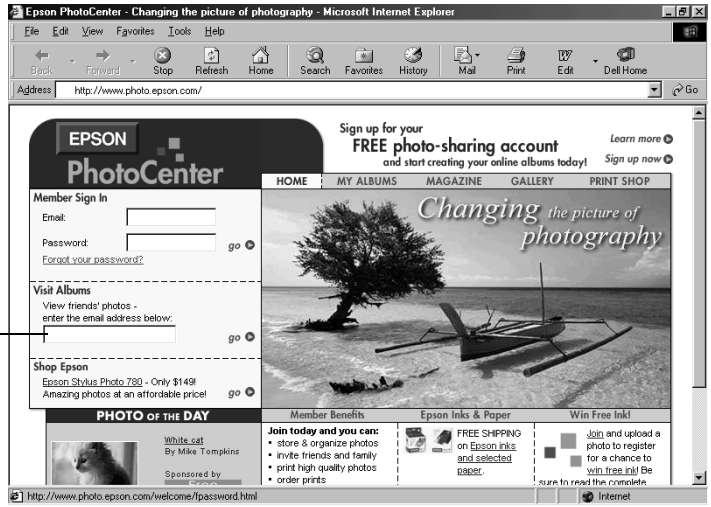


12. Select the album you want to move your photos to. Then click Move or Copy to move the photos to the album. (If you want to create a new album, select New Album from the album selection box. After you click Move or Copy, you will see another window where you can name the album and add a password.)

Now that your photos are in an album, you can view them at any time and share them with your friends and family.

Sharing Your Photos

Now your friends and family can view the photos you've uploaded to the EPSON PhotoCenter. Have them visit http://photo.epson.com, enter your e-mail address under Visit Albums, then click go.



your friends and family enter your e-mail address here

Your friends and family can view the photos in the shared albums you've created. After viewing your photos, they can print the photos at home, order reprints, or use the photos in an e-mail postcard.

click here for help with the EPSON PhotoCenter

select a photo, then click one of these options

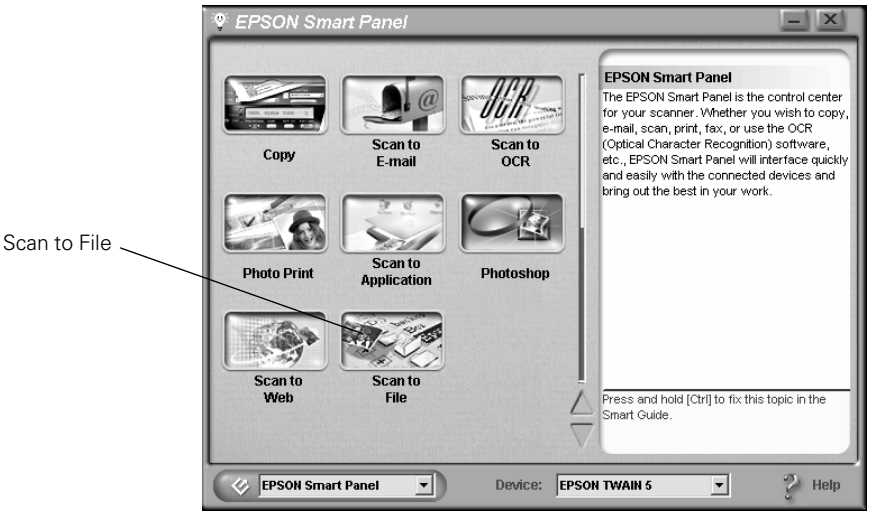
Scanning a Photo to a File

You can scan a photo directly to a file. This is useful for:

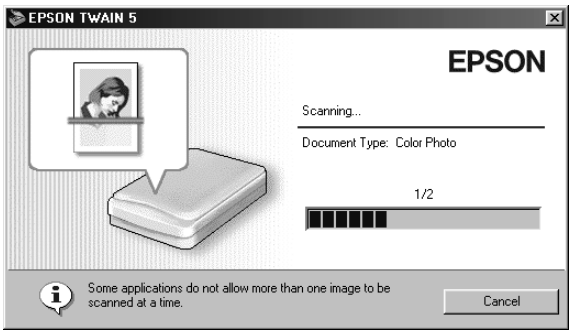
- creating files to attach to an e-mail
- archiving your photos as digital files
- distributing your photos to friends and family.

Follow these steps to scan a photo to a file:

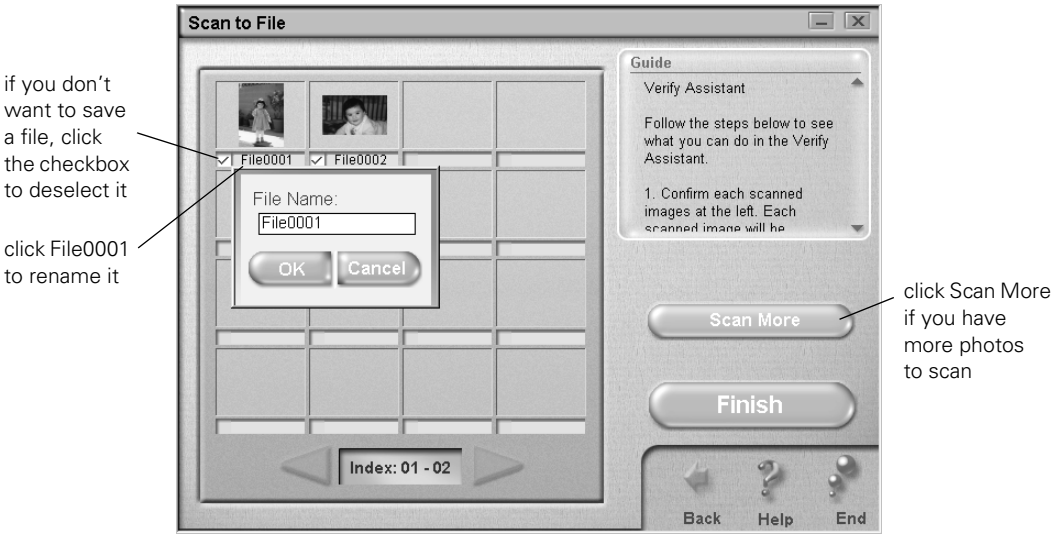
1. Turn on the scanner by pressing the ⏻ Power button.
2. Place your photo(s) face down on the scanner, then close the cover. If you place more than one photo on the scanner, make sure that their edges do not touch.
3. Do one of the following to open EPSON Smart Panel:
   - Double-click the Smart Panel icon on the desktop.
   - If you haven't reassigned its function (see page 11), you can press the ◇ Start button on your scanner.
   - From the Windows Start menu, click Programs, then open Smart Panel from the EPSON Smart Panel folder. (On a Macintosh, open the Apple menu and select EPSON SMART PANEL.)
4. EPSON Smart Panel opens. Click Scan to File.



EPSON TWAIN automatically scans your image. If you'd rather scan in Manual mode so you can adjust your scan settings, click Cancel. (See page 30 for instructions on selecting TWAIN settings.) After adjusting your settings, close EPSON TWAIN and continue with step 5.



5. When the scan completes, the Scan to File dialog box opens. If you want to scan more photos, place them on the scanner, close the cover, and then click Scan More. When you're finished scanning, click Finish.

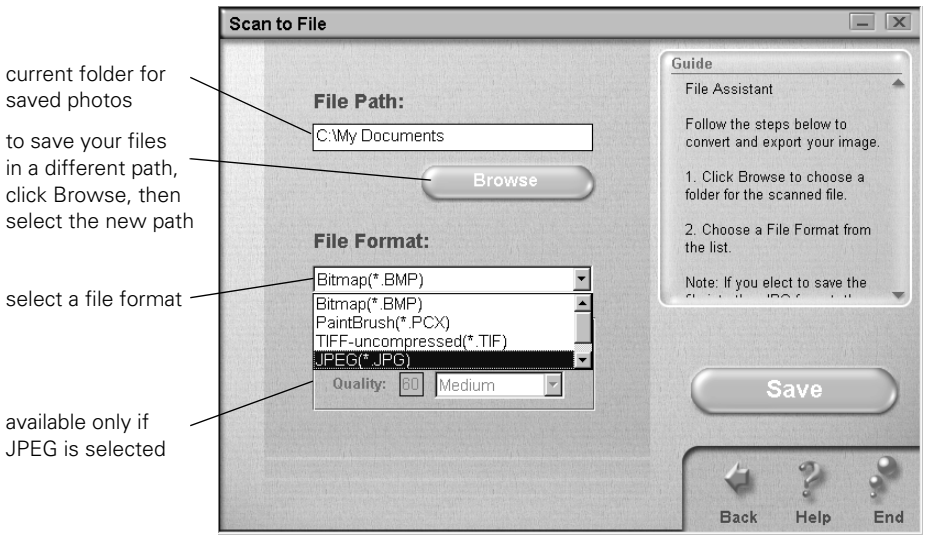


TIP You can see a larger version of an image by double-clicking it.

6. At the next dialog box, you may specify a file path and file format. When you're finished, click **Save**. The photo is saved in your selected folder.

The file path is the location where the file is saved. If you are not going to use the default path (My Documents), be sure to use a path that is easy to remember.

Bitmap is the default file format in Windows. JPEG is the default file format on Macintosh. Bitmap files are high quality, but have a large file size. To send a photo through the Web or by e-mail, try the JPEG file format instead. JPEG format allows you to select different levels of image quality (remember that higher quality results in a larger file size).



Advanced Scanning

If you're experienced with scanning, you can scan from Adobe Photoshop Elements (which comes with your scanner) or nearly any other graphics program. Once you've opened your graphics program, you have to choose the scanner software you want to scan with.

The standard software that comes with your scanner is EPSON TWAIN. If you've installed LaserSoft Imaging SilverFast SE, you can use it instead of EPSON TWAIN. SilverFast SE is a high-end scanning utility that delivers highest-quality professional results. You can install SilverFast SE from the Scanner Software CD-ROM that came with your scanner; for details, see page 28.

Once you've selected your scanner software, you can use it to start your scan and import your image directly into your graphics program.

This chapter covers the following:

- "Scanning from an Application" on page 28
- "Using EPSON TWAIN" on page 30
- "Using SilverFast SE" on page 32
- "Recommended Settings" on page 34

Scanning from an Application

Follow the instructions below to scan from an image-processing application.

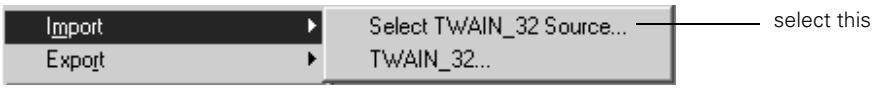
Selecting the Scanner Source (Windows only)

The first time you open your application in Windows, you have to select the scanner "source" you want to scan with. This is normally EPSON TWAIN (the standard software that comes with your scanner), but if you've installed SilverFast SE, you can select it instead.

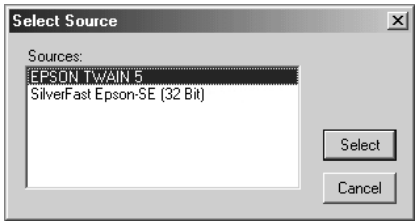
If you need to install SilverFast SE, insert your Scanner Software CD-ROM, select LaserSoft SilverFast SE, and click Start Installation. If you prefer to install the SilverFast SE plugin for PhotoShop, see page 33. The first time you open SilverFast, you have to enter the serial number printed on the label on the CD-ROM sleeve.

Follow the steps below to scan from an application. (Since Adobe PhotoShop Elements comes with your scanner, this section uses it as an example, but you would perform similar steps with other graphics software.)

1. Start your image-processing application, such as Photoshop Elements.
2. Open the File menu and choose Import, then Select TWAIN_32 Source.



3. Select the EPSON TWAIN 5 source, as shown, and click Select.



If you've haven't installed SilverFast SE, it won't be listed as a source.

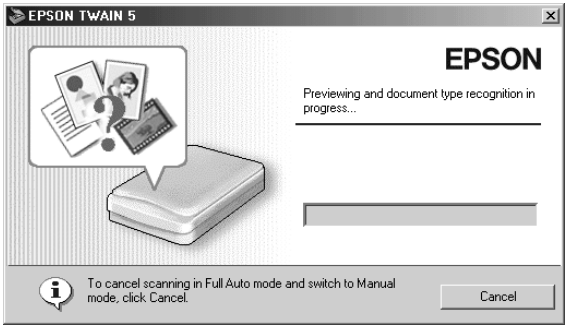
Scanning Your Image

To start you scan, follow these steps:

1. Turn on the scanner by pressing the ⏻ Power button.
2. Place your photo(s) face down on the scanner, then close the cover. (If you place multiple photos, make sure that their edges do not touch.)
3. In your image-processing software, open the File menu and choose Import, then TWAIN_32 (Windows) or EPSON TWAIN 5 (Macintosh).

If you've installed SilverFast SE on the Macintosh, you can select it instead of the standard EPSON TWAIN driver. (With Windows, you can select SilverFast SE as described on page 28.) The first time you open SilverFast, you have to enter the serial number printed on the label on your Scanner Software CD-ROM sleeve.

If you're using EPSON TWAIN, you see this screen while the scan is in progress:



4. If you want the scan to be performed automatically (and EPSON TWAIN to select the best settings for your scan), simply wait for it to finish. If you prefer to use the Manual mode and make the settings yourself, click Cancel and see page 30 for more information.
5. EPSON TWAIN closes when the scan is complete, and the image appears in your photo-editing software.

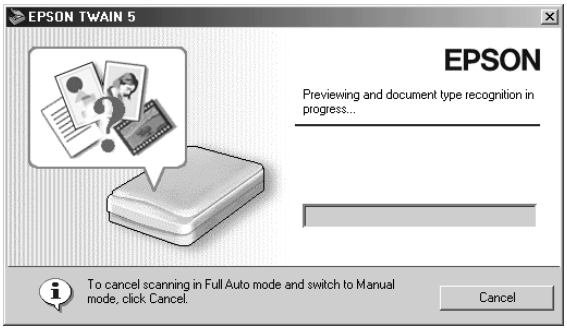
Using EPSON TWAIN

When you scan with EPSON TWAIN, the default mode is Full Auto and the software automatically selects the settings for your image type. EPSON TWAIN also has a Manual mode that lets you select the settings yourself, as described below. An intermediate option is to set your own resolution, but let EPSON TWAIN automatically select the rest of the settings; this is useful if you want to scan several images, but want a lower or higher resolution than what Full Auto mode selects.

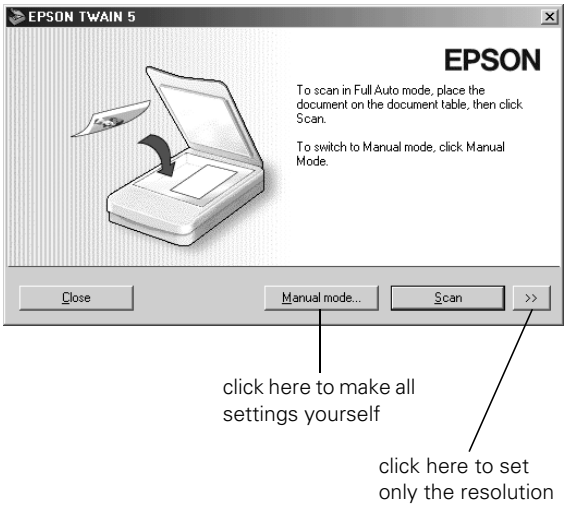
Follow these steps to make your own settings:

1. Start your scan. This can be done with the Start button, from Smart Panel, or from within your application as described on page 28.

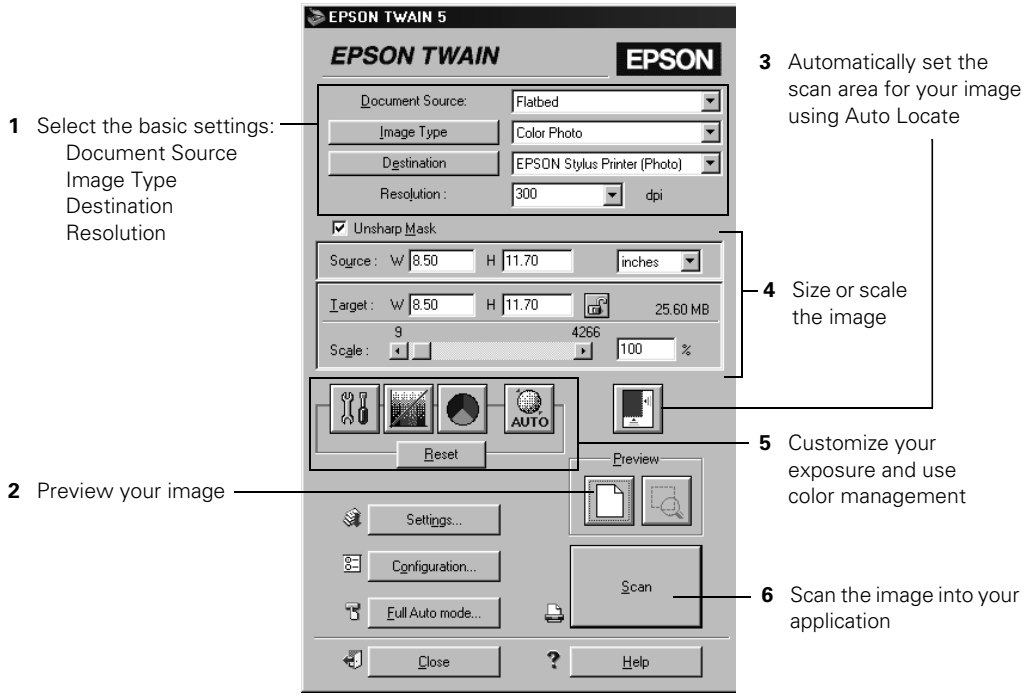
2. Click Cancel when you see this screen:



3. Click Manual mode, then continue with step 4 to select your TWAIN settings. Or click the >> arrow button to set just the resolution, letting EPSON TWAIN select all other settings automatically.



4. Manually adjust settings in the EPSON TWAIN window in the following order:



5. After you scan your image, close EPSON TWAIN to return to your image-processing or Smart Panel application.

TIP The most important thing to remember when scanning is to select the correct image type and best resolution for your scan. For tips on selecting the best resolution and image type, see page 34. For detailed information on making settings in EPSON TWAIN, see your electronic *Reference Guide*, as described on page 41.

NOTE To switch back to automatic mode, click Full Auto mode in the EPSON TWAIN window.

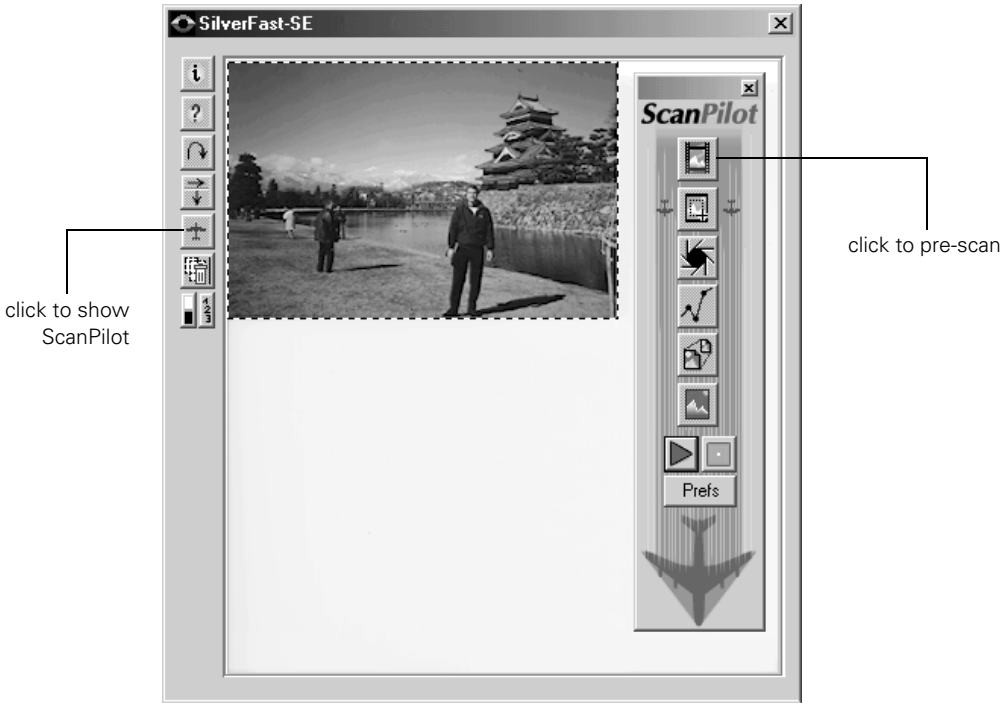
Using SilverFast SE

You can use SilverFast SE as an alternative to the standard EPSON TWAIN software that comes with your scanner. The easiest way of scanning with SilverFast SE is to use ScanPilot® This utility guides you through the best sequence of steps for achieving a professional-looking image.

The first time you open SilverFast, you have to enter the serial number printed on the label on your Scanner Software CD-ROM sleeve.

You can stop ScanPilot at any time by pressing the stop button. Then you can use the SilverFast control panel to make your settings manually.

1. Start your scan from within an image-processing application as described on page 28. Be sure to select SilverFast SE as the scanner source.
2. When SilverFast SE opens, you see a screen like the one shown below. If you don't see the ScanPilot utility, click .



3. Click to prescan your image.
4. Follow the remaining steps as indicated by ScanPilot. When you're done, SilverFast closes and your completed image appears in your image-processing application.

You can select or de-select which tools are offered by ScanPilot. Click the Prefs button to customize your selections.

For more information on using SilverFast SE, click to view the online help.

Installing the SilverFast SE Plugin

If you prefer, you can use SilverFast as a Photoshop plugin (instead of as a TWAIN driver). To install the plugin, follow these steps:

1. Insert the Scanner Software CD-ROM that came with your scanner.
2. Open the LaserSoft folder, then open the Photoshop Plugin folder.
3. Double-click Setup.exe to launch the plugin installer. Follow the instructions on screen to install the plugin.

Recommended Settings

Getting the best scan depends on several factors, including the quality of your original and the resolution you select. The better your original is, the better your scan will be. You can make many corrections in your scanning software (EPSON TWAIN or SilverFast SE). For additional photo retouching, use an image editing program such as Adobe Photoshop Elements.

If you want to manually adjust your scan, try the following settings:

- Viewing on screen or the Web: 72 to 96 dpi
- Sending and viewing on e-mail: 96 to 150 dpi
- Printing:

Type of image	Recommended Image Type	Resolution for printing
Photograph	Color Photo	300 dpi
Small photograph to be enlarged	Color Photo	300 to 3200 dpi
Magazine	Color Photo	300 dpi
Newspaper (text only)	Text	400 dpi
Text for OCR	Text	400 dpi
Text with images	Color Document	400 dpi
Line art	Line Art	300 to 3200 dpi
35 mm film (negative)	TPU: Color Neg. Film TPU: Monochrome Neg. Film	300 to 3200 dpi
35 mm slide	TPU: Pos. Film	300 to 3200 dpi
4 x 5 negative	TPU: Color Neg. Film TPU: Monochrome Neg. Film	300 to 3200 dpi
4 x 5 transparency	TPU: Pos. Film	300 to 3200 dpi

Problem Solving

This chapter gives you the basics for diagnosing and solving scanner problems. For more troubleshooting tips, see the "Troubleshooting" section of your electronic *Reference Guide*.

Scanner Light

The scanner's indicator light (next to the ◇ Start button) indicates the status of the scanner, as described below.

Light	Color	Status
Flashing	Green	The scanner is initializing (warming up) or is busy scanning.
On	Green	The scanner is ready to scan images.
Flashing	Red	Check the following, then turn your scanner off and back on to reset it: ■ Make sure the transportation lock is turned to the unlocked position. See the *Start Here* sheet for details. ■ Make sure the scanner is properly connected to your computer. ■ If you are scanning transparencies, make sure you've removed the reflective document mat. If this does not eliminate the error, the fluorescent lamp may need to be replaced or the scanner may have another problem. Consult your dealer or EPSON.
Off	—	The scanner is unplugged or turned off.

Problems and Solutions

If you're having problems, this section answers some of the most common questions.

Setup Problems

Your system doesn't recognize the scanner or the indicator light doesn't come on.

Make sure your scanner is connected to your computer and plugged into a power source.

The New Hardware Wizard appears.

Click Cancel and follow the steps on the *Start Here* sheet. Be sure to disconnect the scanner before installing your software.

You are unable to install EPSON TWAIN in Windows 2000.

- In Windows 2000, don't select Block under Control Panel, System, Hardware, Driver Signing; select Ignore or Warn instead.
- If you see an error message or the software doesn't install correctly on Windows 2000, you may not have software installation privileges. See your system administrator.

You cancelled the scanner software installation before it was complete, or you connected the scanner before installing the software (Windows users).

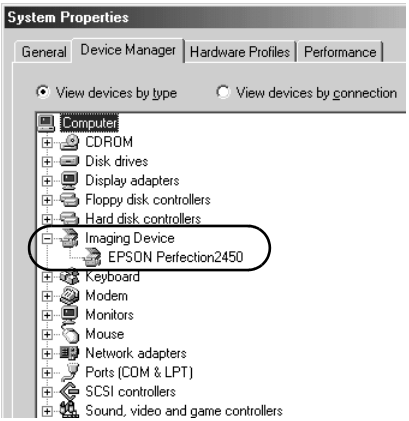
EPSON TWAIN may be incorrectly installed. See the section below for your operating system.

For Windows Me or 98 users:

Turn off the scanner and disconnect the USB or IEEE 1394 cable, then follow the installation steps on the *Start Here* sheet.

For Windows 2000 users:

1. Make sure your scanner is plugged in and connected to your computer.
2. Right-click the My Computer icon on your desktop, and then click Properties.
3. In the System Properties dialog box, select the Hardware tab, then click Device Manager.
4. Click the plus (+) sign next to Other devices or Imaging devices. If a question (?) mark or an exclamation (!) mark appears next to your scanner name, right-click your scanner name, and then select Uninstall.



5. Turn off the scanner and disconnect the USB or IEEE 1394 cable, then follow the installation steps on the *Start Here* sheet.

Scanner Problems

The fluorescent lamp isn't on.

- The scanner has a power saving function (sleep mode); press the ⟡ Start button to "wake" the scanner.
- Make sure the power cord is plugged into an electrical outlet and you've turn on the scanner using the ⏻ Power button.

The scanner doesn't scan.

- Wait until the green indicator light stays on (ready for scanning). You may need to preview your scan to make the lamp come on.
- If you are using a USB hub, try connecting the scanner directly to the computer's USB port. Use only the USB cable that came with your scanner.
- If you are using IEEE 1394, make sure these extensions are selected in the Windows Extensions Manager: EPSON FW Scanner Enabler, EPSON FW Scanner Expert, and EPSON FW Scanner Lib.
- If you see your scanner in the Windows Control Panel, but you can't scan, uninstall and reinstall your scanner software.

You're having trouble scanning while using the transparency unit.

- Make sure the transparency unit cable is connected to the round port on the back of the scanner.
- If you're scanning in Manual Mode on a Macintosh, the "stopwatch" icon may not change back to a cursor after scanning is complete. The cursor returns to normal after you close EPSON TWAIN.
- Make sure you've removed the reflective document mat and positioned the film holder correctly (see page 4).
- If the edges of your image aren't scanned, see page 39.

Software Problems

The scanner software doesn't work properly.

- Make sure your computer meets the system requirements listed on page 45 or page 46 and supports the software applications you're using.
- Check if your computer has enough memory for your software. If you're running other software at the same time, the computer may not have enough memory. (See your software and computer manuals.) Try closing any open applications, including screen savers and virus protection programs.

  If you are scanning a large image or scanning at a high resolution, your computer may not have enough memory to process the image.
- Check your software installation. If all else fails, uninstall your software, then reinstall it.

Image Problems

Your scanned image is blurred or distorted.

- Make sure the document is placed flat against the scanner's document table glass. If only part

of the image is blurred, part of your document may be wrinkled or warped.

- Try scanning at a higher resolution. See page 34 for recommended settings.
- Make sure the document table glass is clean. See your electronic *Reference Guide* for details.
- Make sure the scanner is not tilted or placed on an unstable or uneven surface.

Your image is too dark.

- Try adjusting the brightness with your application software. Also check the brightness and contrast values of your display screen.
- The dark area around film, such as the frame of the film holder, may cause your scans to appear darker. Adjust the marquee (frame border) in the preview window so none of the film holder is selected. See your electronic *Reference Guide* for details.

The edges of the document are not scanned.

- The edges of your film might not scan if you use a film holder. If this happens, turn off Automatic Thumbnail Preview for Film:
  1. In EPSON TWAIN, click Configuration.
  2. On the Preview tab, make sure the checkbox for Automatic Thumbnail Preview for Film is unchecked.

  When you preview your image, manually select the area to be scanned.

- The document table has non-readable areas around the edges. If your document extends beyond the limits marked on the document table edge guides, reposition your document so it is within the readable area.

The scanner doesn't recognize your image type when scanning in Full Auto mode.

Try scanning the image again. If that doesn't work, scan in Manual mode (see page 30 for instructions).

The image does not look the same as the original.

- Your software settings are not correct for your document type. Try different combinations of image settings using your scanner software.
- Because your monitor and printer use different technologies to represent colors, your printed colors cannot exactly match the colors you see on your screen. If you increase your monitor's color palette, you can view a greater range of colors on screen.

The file size is too big.

Adjust your scan settings. Try selecting a lower resolution (dpi), saving the file in a different format, or scan only part of the image. If you changed the default resolution for Full Auto mode (see page 30), make sure it is not too high.

The printed image is larger or smaller than the original size.

You have changed the resolution or scaled your image. The image size settings in your software determine the size of the printed image.

A dotted line appears in the image.

If this happens on both your screen and printout, the scanner is not working properly. Contact your dealer or EPSON.

If the line is just on your printout, you may need to clean your printer.

Where To Get Help

For More Information

There are several sources of information for your scanner, including printed materials, help utilities, and electronic manuals. Here's where to look for help:

- *Scanner Basics*
  This manual contains scanning instructions, troubleshooting information, system requirements, safety instructions, and your warranty.
- On-screen Help
  Whenever you're working with EPSON Smart Panel or any of the other software that came with your scanner, you can click the Help button or Help menu. Your software may also include electronic manuals in PDF format. Check each program's folder on the CD-ROM to see if an electronic manual is available.
- EPSON Perfection 2450 PHOTO *Reference Guide*
  This electronic manual has detailed information about your scanner, including how to use EPSON TWAIN, scan transparencies, assign Smart Panel applications to the ◇ Start button, troubleshooting, and specifications. If you copied the *Reference Guide* to your hard drive during the software installation, you can access it as follows:

  Windows: Click Start, select Programs, EPSON, then click PF 2450 PHOTO Guide.

  Macintosh: Open the EPSON PERFECTION 2450 folder, then double-click View Reference Guide.
- *EPSON Smart Panel User's Guide*
  EPSON Smart Panel includes an electronic manual, which is automatically copied to your hard drive when you install the software. You can access it by opening EPSON Smart Panel, then clicking the **?** in the lower right corner.

The *Reference Guide* and *EPSON Smart Panel User's Guide* are in HTML format, so you need a browser—such as Internet Explorer 3.0 or Netscape Navigator,™ version 3.0 or later—to view it. (A browser is not included on the CD-ROM.)

EPSON Technical Support

EPSON provides technical assistance 24 hours a day through the electronic support services and automated telephone services listed in the following table:

Service	Access
World Wide Web	From the Internet, you can reach EPSON Support at **http://support.epson.com**. At this site, you can download drivers and other files, look at product documentation, access troubleshooting information, and receive technical advice through e-mail.
Automated Telephone Services	A variety of automated help services are available 24 hours a day, seven days a week. To use these services, you must have a touch tone telephone and call **(800) 922-8911**. Your EPSON SoundAdvice℠ Express Code is 70365. Use this code to quickly select your scanner in SoundAdvice.

To speak to a technical support representative, dial (562) 276-4382 (U.S.) or (905) 709-3839 (Canada), 6 AM to 6 PM, Pacific Time, Monday through Friday. Toll or long distance charges may apply.

Before you call, please have the following information ready:

- Product name (EPSON Perfection 2450 PHOTO)
- Product serial number (located on the back of the scanner)
- Proof of purchase (such as a store receipt) and date of purchase
- Computer configuration
- Description of the problem

You can purchase supplies and accessories from the EPSON Store at (800) 873-7766 or visit our web site at www.epsonstore.com (U.S. sales only). In Canada, please call (800) 873-7766 for dealer referral.

If you need help using another manufacturer's software with an EPSON product, see the documentation for that software for technical support information.

Software Support

Software	Telephone	Fax	Online and E-mail
EPSON TWAIN driver	U.S. (562) 276-4382 Canada (905) 709-3839	(800) 922-8911 fax-on-demand system	http://support.epson.com
EPSON Smart Panel	(510) 445-8616	(510) 445-8601	tech@newsoftinc.com
LaserSoft Imaging SilverFast SE	(941) 383-7496 9:00 AM to 5:30 PM, EST, Monday through Friday	(941) 387-7574	support@SilverFast.com www.SilverFast.com
Adobe Photoshop Elements	(206) 675-6126 6:00 AM to 5:00 PM, PST, Monday through Friday (pay support)	—	www.adobe.com/support techdocs@adobe.com

Requirements and Notices

This chapter includes system requirements, safety instructions, and other important information about your EPSON Perfection scanner.

System Requirements

The minimum system requirements for Windows and Macintosh are listed below. For optimum performance, a faster processor and more memory are recommended. If you are scanning high-resolution images, you need more than the minimum available hard disk space and memory listed.

Windows

- An IBM®-compatible PC with a Pentium® or higher processor
- For USB: Microsoft Windows 98 Second Edition, Windows Me, or Windows 2000 Professional; operating system must not be an upgrade from Windows 95

  For IEEE 1394: Microsoft Windows Me or Windows 2000 Professional; operating system must be pre-installed
- 64MB RAM (128MB recommended)
- 50MB available hard disk space
- CD-ROM or DVD drive
- Built-in USB connection (or self-powered, first-tier USB hub connection) or IEEE 1394 port (IEEE 1394-1995 compatible); scanner is USB 2.0 compatible
- Mouse or pointing device
- VGA color monitor with 640 × 480 or higher resolution (a color monitor with a resolution of 800 × 600 or higher recommended)
- 8-bit, 256-color display adapter (24-bit display adapter with millions of colors recommended)

On-screen color and tone reproduction are subject to the display capability of your computer system, including the video adapter, monitor, and software. See the documentation for these products for details.

Macintosh

You cannot use a serial interface to connect the scanner.

- For USB: Apple Macintosh computer (G3, G4, or iMac™) with built-in USB port, running Mac® OS 8.5 to 9.X

  For IEEE 1394 (FireWire™): Power PC-equipped Macintosh with Mac OS 8.6 to 9.X

If using FireWire, make sure Apple's FireWire 2.1 (or later) software is installed on your system. Check the Apple web site for any updates to your operating system.

- Built-in USB connection (or self-powered, first-tier USB hub connection) or FireWire port (IEEE 1394-1995 compatible); scanner is USB 2.0 compatible
- 64MB RAM (128MB recommended)
- 50MB available hard disk space
- CD-ROM or DVD drive
- Mouse or pointing device
- VGA color monitor with 640 × 480 screen resolution (or higher recommended) and 256 colors (millions of colors recommended)

On-screen color and tone reproduction are subject to the display capability of your computer system, including the video adapter, monitor, and software. See the documentation for these products for details.

EPSON TWAIN supports the Apple ColorSync™ 2.X color management system and QuickTime.™ These extensions are automatically installed during EPSON TWAIN installation.

Important Safety Instructions

Read all of these instructions and save them for later reference. Follow all warnings and instructions marked on the scanner.

- Place the scanner close enough to the computer for the interface cable to reach it easily.
- Place the scanner near an electrical outlet where the power cord can be easily unplugged.

  Note for French-speaking users:
  Placez le scanner près d'une prise de courant où le cordon d'alimentation peut être débranché facilement.
- Allow space behind the scanner for the cables, and space above the scanner so that you can raise the document cover fully.
- Keep the scanner away from high temperatures and humidity, and excessive dirt or dust. Also avoid using or storing the scanner in places subject to rapid changes of temperature and humidity.
- Keep the scanner away from direct sunlight and strong light sources.
- Unplug the scanner before cleaning. Clean with a damp cloth only. Do not use liquid or aerosol cleaners.
- Do not place the scanner on an unstable surface, near a radiator, or near a heat source.
- Do not use the scanner near water or outdoors, or handle it with wet hands. Never insert or disconnect the power plug with wet hands.
- Keep out of reach of children.
- Use only the type of power source indicated on the scanner's label, and always supply power directly from a standard domestic electrical outlet with the AC power cord that meets the relevant local safety standards.
- Power-supply cords should be protected from abrasion, cuts, crimping and kinking. Be sure to place your cords to avoid any damage. Do not place objects on top of the power cord or allow the power cord to be stepped on or run over.
- Beware of electrical shock hazards.
- Connect all equipment to properly grounded power outlets. Avoid using outlets on the same circuit as photocopiers or air control systems that regularly switch on and off.
- Do not let the power cord become damaged or frayed.
- If you use an extension cord with the scanner, make sure the total ampere rating of the devices plugged into the extension cord does not exceed the cord's ampere rating. Also, make sure the total ampere rating of all devices plugged into the wall outlet does not exceed the wall outlet's ampere rating. Do not place multiple loads on the electrical outlet.
- Never disassemble, modify, or attempt to repair the scanner or power cord.
- Avoid places subject to shocks and vibrations.
- Do not block or cover the openings in the scanner's cabinet. Do not insert objects into any openings as they may touch dangerous voltage points or short out parts.

- Unplug the scanner and refer servicing to qualified service personnel under the following conditions:

  If the power cord or plug is damaged; if liquid has entered the scanner; if the scanner has been dropped or the case damaged; if the scanner does not operate normally or exhibits a distinct change in performance. (Do not adjust controls that are not covered by the operating instructions.)
- The scanner is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug only fits into a power outlet in one way. This is a safety feature. If you are unable to insert the plug properly, try reversing the plug. If the plug still fails to fit, contact an electrician to replace your outlet.

ENERGY STAR Compliance

As an ENERGY STAR Partner, EPSON has determined that this product meets the ENERGY STAR guidelines for energy efficiency. The EPA ENERGY STAR office equipment program is a voluntary partnership with the computer and office equipment industry to promote the introduction of energy-efficient personal computers, monitors, printers, fax machines, and copiers in an effort to reduce air pollution caused by power generation.

FCC Compliance Statement

For United States Users

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio or television reception. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio and television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

WARNING: The connection of a non-shielded equipment interface cable to this equipment will invalidate the FCC Certification of this device and may cause interference levels which exceed the limits established by the FCC for this equipment. It is the responsibility of the user to obtain and use a shielded equipment interface cable with this device. If this equipment has more than one interface connector, do not leave cables connected to unused interfaces. Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

For Canadian Users

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le materiel brouilleur du Canada.

Declaration of Conformity

According to 47CFR, Part 2 and 15 for Class B Personal Computers and Peripherals; and/or CPU Boards and Power Supplies used with Class B Personal Computers:

We: EPSON America, Inc.

Located at: MS 3-13
3840 Kilroy Airport Way
Long Beach, CA 90806-2469
Telephone: (562) 290-5254

Declare under sole responsibility that the product identified herein, complies with 47CFR Part 2 and 15 of the FCC rules as a Class B digital device. Each product marketed, is identical to the representative unit tested and found to be compliant with the standards. Records maintained continue to reflect the equipment being produced can be expected to be within the variation accepted, due to quantity production and testing on a statistical basis as required by 47CFR §2.909. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Trade Name: EPSON

Type of Product: Color Image Scanner

Model: G860A

Warranty

Epson America, Inc. Limited Warranty

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To locate the EPSON Authorized Reseller or EPSON Customer Care Center nearest you call: (800) 922-8911 or write to: Epson America, Inc., P.O. Box 93008, Long Beach, CA 90809-9985.

Index

Numerics

35 mm film or slide, scanning, 6 to 7, 34

A

Accessories, 42
Advanced settings, TWAIN, 30 to 31

B

Base side, film, 6
Blurred image, 38
Brightness problems, 39

C

Correcting color, 39 to 40

D

Dark image, 39
Document position, 3, 39
Documentation, how to use, 41

E

E-mail, scanning to, 13 to 16
Emulsion side, film, 6
ENERGY STAR, 48
EPSON
- help, 42 to 43
- PhotoCenter, 18 to 23
- Store, 42
- TWAIN, 28 to 31

F

File size, 40
File, scanning to, 24 to 26
Film holders, using, 6 to 7
Film, scanning, 4 to 7, 34
Fluorescent lamp, 37

H

Help
- EPSON, 42 to 43
- manuals, 41
- software, 43

I

Image quality problems, 38 to 40
Incorrect colors, 39 to 40
Installation, troubleshooting, 36 to 37

L

Lamp, fluorescent, 37
LaserSoft Imaging, *see* SilverFast SE
Light, scanner, 35, 36

M

Manual mode, TWAIN, 30 to 31
Manuals, 41

N

New Hardware Wizard, 36

P

Photo Print, 16 to 17
PhotoCenter, EPSON, 18 to 23

R

Requirements, system, 45 to 46

S

Safety instructions, 47 to 48
Scanner
  light, 35, 36
  troubleshooting, 37 to 38
Scanning
  from an application, 28 to 29
  problems, 38 to 40
  text, 9
  to e-mail, 13 to 16
  to file, 24 to 26
  to Web, 18 to 23, 34
  with EPSON TWAIN, 29
  with Photo Print, 16 to 17
  with SilverFast SE, 29
Settings, resolution, 34
Setup problems, 36 to 37
SilverFast SE
  installing, 28
  overview, 27
  Photoshop plugin, 33
  scanning with, 29
  selecting as source, 28
  settings, 32 to 33
Slides, scanning, 34
Smart Panel, overview, 9 to 11
Software installation, troubleshooting, 36 to 37
Software problems, 38
Start button, 11 to 12
Support, 42 to 43
System requirements, 45 to 46

T

Technical support, 42 to 43
Text, scanning, 9
Transparency unit (TPU)
  troubleshooting, 38
  using, 4 to 5
Transparency, scanning, 4 to 7, 34
Troubleshooting
  image quality, 38 to 40
  scanner, 37 to 38
  setup, 36 to 37
  software, 38
  transparency unit, 38
  Windows, 36 to 37
TWAIN, EPSON
  overview, 27
  scanning with, 29
  selecting as source, 28
  settings, 30 to 31

U

USB, 45, 46

W

Warranty, 50 to 51
Web, scanning to, 18 to 23
Windows, troubleshooting, 36 to 37